

Citellus parryii parryii (Richardson). Hudson Bay Ground Squirrel.

Five stomachs of the Hudson Bay ground squirrel show that, like its more southern congeners, it is primarily a vegetarian. While a fairly large number of plant foods were consumed, two items—vetch (*Astragalus* sp.) and sedge (*Carex* sp.)—appeared in each stomach examined, and formed 73.40 percent and 14.20 percent respectively of all food taken. Smartweeds (*Polygonum* sp.) formed 8 percent, while wood rush (*Luzula* sp.), rush (*Juncus* sp.) and rose (Rosaceae) formed 0.6, 0.2, and 0.2 percents respectively. Unidentified plant debris aggregated 1 percent. Other vegetable foods occurring as a trace included: Moss, grass (Gramineae), waterbuttercup (*Ranunculus* sp.), cinquefoil (*Potentilla* sp.), Labrador tea (*Ledum groenlandicum*), and blueberry (*Vaccinium* sp.).

Four of the five ground squirrels had fed to a limited extent on the larvae of craneflies (*Tipula* sp.) which averaged 2.40 percent of the food. One animal also had the remains of fish from a preceding meal in its stomach. This, however, formed but a trace of the total food.

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BOTANY.—*Three new grasses from Polynesia.*¹ JASON R. SWALLEN,
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The following new species were in a large collection of grasses recently received for study from the Bernice P. Bishop Museum, Hawaii. One was collected on the island of Rapa, one on Raiatea, Society Islands, and the other on Aiwa, Fiji Islands.

Aristida aspera Swallen, sp. nov.

Perennis; culmi dense caespitosi, erecti, nodis geniculati, asperi, 40-60 cm alti, ramis dense fasciculatis; vaginae internodiis elongatis breviores, scaberrulae; ligula 0.2 mm longa; laminae planae vel involutae, flexuosae vel falcatae, 2-8 cm longae, 1-2 mm latae, glabrae; paniculae 3-10 cm longae, ramis appressis paucifloris remotis; spiculae appressae vel divergentes;

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glumae mucronatae, 1-nerves, prima 4.5 mm longa, secunda 6.5 mm longa; lemma 7-8 mm longum, glabrum, callo 0.5 mm longo, dense piloso; aristae 7-9 mm longae, teretes, scabrae.

Perennial; culms in dense hard clumps, erect from short knotty rhizomes, sometimes geniculate at the nodes, 40-60 cm tall, somewhat flattened, minutely nodulose roughened, freely branching from all the nodes, the branches often in dense fascicles; sheaths much shorter than the elongate internodes, scaberulous; ligule minutely lacerate, 0.2 mm long; blades flat, becoming involute, especially toward the tip, firm, more or less flexuous or falcate, 2-8 cm long (usually less than 5 cm), 1-2 mm wide, glabrous; panicles 3-10 cm long, the branches rather distant not overlapping, few-flowered, appressed; spikelets appressed to somewhat spreading, the pedicels 2-7 mm long; glumes mucronate, 1-nerved, the first 4.5 mm, the second 6.5 mm long, glabrous; lemma 7-8 mm long slightly narrowed toward the tip, glabrous; callus 0.5 mm long, blunt, rounded, densely short-pilose; awns 7-9 mm long terete, scabrous, equally spreading.

Type in the Herbarium of Bernice P. Bishop Museum, collected on grassy slopes of Atanui Valley, altitude 100 m, Rapa, Polynesia, July 24, 1934, by F. R. Fosberg (no. 11620). Duplicate type in the U. S. National Herbarium.

Aristida aspera is related to *A. caput-medusae* Domin which has a shorter panicle (3-6 cm long) with short, approximate, abruptly divergent branches, and smooth culms. Locally called "tine."

Garnotia mucronata Swallen, sp. nov.

Perennis; culmi dense caespitosi, 10-30 cm alti, glabri; vaginae glabrae internodiis longiores; ligula truncata 0.3 mm longa; laminae planae, lanceolatae, pungentes, glabrae, 2-6 cm longae, 2-6 mm latae, marginibus scabris; panicula 4-12 cm longa, stricta, ramis fasciculatis appressis, ad 3 cm longis; spiculae binae 4-5 mm longae basi breviter pilosae; glumae 4 mm longae; 3-nerves, acutae vel acuminatae; lemma 4 mm longum, 3-nerve, glabrum mucronatum vel breviter aristatum; palea hyalina lemma aequans.

Perennial; culms densely tufted, erect, 10-30 cm tall, glabrous; leaves crowded toward the base in a dense cluster; sheaths rounded on the back, glabrous, the lower ones short, overlapping, the uppermost elongate; ligule hyaline, truncate, 0.3 mm long; blades flat, or the margins inrolled, firm, lanceolate, sharp-pointed, 2-6 cm long, 2-6 mm wide, glabrous, the margins scabrous; panicle 4-12 cm long, strict, the branches in rather distant fascicles, appressed, the lowermost as much as 3 cm long; spikelets paired, 5 mm long, including the awn, the hairs at the base short and inconspicuous; pedicels triangular, unequal, the lower about 1 mm long, the upper 2-3 mm long; glumes equal, 4 mm long, acute or acuminate, 3-nerved, the nerves of the first glume scabrous, those of the second glume nearly glabrous; lemma firm, 4 mm long, 3-nerved, glabrous, awn-pointed or awned, the awn not more than 1.5 mm long; palea thin, hyaline, equaling the lemma.

Type in the Herbarium of Bernice P. Bishop Museum, Hawaii, collected on a high moor, Temibani Plateau, alt. 700 m, Raiatia, Society Islands, Oct. 5, 1934, by Harold St. John (no. 17295). Duplicate type in the U. S. National Herbarium. Endemic to Raiatea.

Two other endemic species of *Garnotia* have been described from Raiatea, *G. raiateensis* Moore and *G. depressa* Moore. In the first of these the blades are as much as 8 cm long and not more than 4.5 mm wide, and in the second the blades are involute, not more than 3.5 cm long, while the blades in *G. mucronata* are flat, comparatively short and broad, not more than 6 cm long and as much as 6 mm wide. Furthermore the lemmas in *G. mucronata* are awnless or nearly so whereas those of *G. raiatensis* and *G. depressa* bear slender awns 4–6 mm long.

Another collection, St. John 17298, from the type locality, also belongs to this species.

***Eragrostis scabriflora* Swallen, sp. nov.**

Perennis; culmi erecti dense caespitiosi, graciles, simplices vel ramosi, 20–60 cm alti, glabri; vaginae internodiis breviores, glabrae, in ore dense pilosae; ligula truncata lacerata 0.3 mm longa; laminae erectae vel adscendentes, subinvolutae, 5–15 cm longae (inferiores reductae), infra glabrae supra scabrae; paniculae 3–15 cm longae terminales et axillares ramis solitaribus appressis, ad basin dense floriferis, ad 2 cm longis; spiculae 6–18-florae appressae; glumae acutae 1.5 mm longae; lemma 2 mm longum subacutum, minute scabrum; palea lemma aequans carinis breviter ciliatis.

Perennial; culms erect, densely tufted, slender, wiry, simple or branching from the middle nodes, 20–60 cm tall, glabrous; sheaths much shorter than the internodes, glabrous with a conspicuous dense tuft of hairs at the mouth; ligule truncate, finely lacerate, 0.3 mm long; blades firm, erect or ascending, 5–15 cm long, the lowermost much reduced, flat or loosely folded, smooth below, scabrous and with a few long hairs at the base on the upper surface; panicles 3–15 cm long, the branches solitary, appressed, densely flowered from the base, rather distant in the lower part of the panicle, becoming approximate toward the summit, not more than 2 cm long; spikelets short-pedicel, appressed to the branches, 6–18 flowered (usually 10–12 flowered), the rachilla continuous; glumes acute, 1-nerved, about 1.5 mm long, scabrous on the keel; lemmas 2 mm long, subacute, minutely scabrous, more so on the nerves; palea persistent, obtuse, a little shorter than the lemma, shortly ciliate on the upper half of the keels.

Type in the Herbarium of Bernice P. Bishop Museum, Hawaii, collected on "bare spots in wooded basin and on limestone ridges, alt. 25–40 m, Aiwa (E)," Fiji Islands, August 30, 1924, by E. H. Bryan, Jr. (no. 528). Duplicate type in the U. S. National Herbarium.

This species has also been collected "on bare hillsides (dry) and moist hollows (luxuriant), alt. 10–60 m, . . . Olorva," Fiji Islands (Bryan 520).

This grass is apparently the one which Summerhays and Hubbard² refer to *E. elongata* (Willd.) Jacq. In that species, however, the lemmas are smooth and abruptly acute, the panicle branches are longer, scarcely densely flowered, and usually spreading. The sheaths also lack the tuft of hairs at the mouth which is a conspicuous character of *E. scabriflora*.

² SUMMERHAYES, V. S. and HUBBARD, C. E. *A supplement to the grasses of the Fiji Islands*. Kew Bull. Misc. Inf. 1930: 262. 1930.